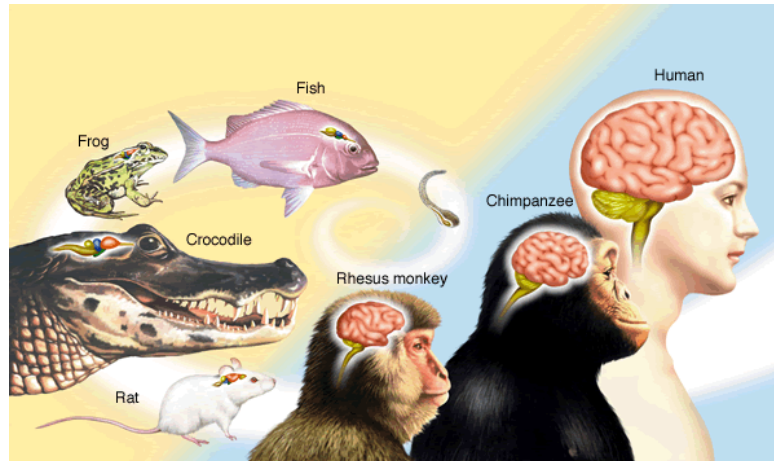# Mammal brains

Background

Evolutionary biologists are keenly interested in what characteristics of a species determine their evolutionary pathway. A variable that is of particular interest to these biologists is brain size as investigations have shown plays a large role in the evolution of species.

One might expect that bigger brains are better and indeed scientists claim that mammals with large brains tend to have more chance of surviving. The study that this dataset comes from explains biologists are interested in finding out whether any characteristics of a species are associated with large brains and hence provide further insight into evolutionary pathways.

Data

The dataset provides four selected characteristics of a mammal. They are the average values of brain weight, body weight, gestations lengths (lengths of pregnancy), and litter size for 96 species of mammals.

source: appears in Ramsey F.L. & Schafer D.W. 1997, The Statistical Sleuth, *a course in methods of data analysis.* Wadsworth, *p.229*

Variables

Species = Type of mammal

Brain = weight of brain in grams

Body = weight of body in kilograms

Gestation = Length of pregnancy in days

Litter = Size of the litter

- Note: all values are averages (mean values)

Questions

What can you say about outliers (if any) in this dataset?

Which variables are associated with brain size?

What sort of insight does this give regarding evolution in mammals?

How widely can you make any inferences?